

## DETAILED ACTION

### *Election/Restrictions*

Applicants' response to the election/restriction requirement, received 7/7/2008, is noted. Applicants' elected a mixture of quaternized vinylimidazole and diallyldimethylammonium chloride as the compound or structure a1, and vinylimidazole and N,N-diallyl amine as the precursors thereof (a2). Applicants further elected polyethylene oxide as the polyether comprising compound, N-vinylpyrrolidone as optional monomer (c) and vinyl acetate as optional monomer (d). Applicants' election was **with traverse**. Traversal was on the grounds that there was an insufficient showing of distinctness between the species, that there is no serious burden to examine all the species together, and that the election requirement does not meet the test of MPEP 806.04(j). In response, the showing that the various species have different, non-overlapping chemical formulae is sufficient to show their distinctness. This is also sufficient to show burden of search, because different search terms or strategies may be required to search species with different names and structures. In response to applicant's last argument, MPEP 806.04 is not the appropriate test in this case for whether an election requirement is proper. Because this application was filed under section 371 as a national stage entry of a PCT, the appropriate PCT rules, as explained in the restriction requirement, are the standard.

The elected species of claim 1 has been found to be allowable. Accordingly, the search has been expanded to include copolymers where (a1) is N,N diallyl ammonium and (b) is either (polyethyleneglycol) acrylate ester or and the species where (a1) is a

quaterinized N,N dimethylacrylamide and (b) is poly(ethylene glycol), and their corresponding direct preproducts. Because this species was found in the art, the search was not expanded to include any unnecessary additional non-elected species. MPEP 803.03. Claims which may not read on the elected species, and do not include the species additionally searched are withdrawn from consideration. MPEP 803. As such, claims 5, 10, 19-21 are withdrawn. Note that claim 5 need not read on the elected species of polyether compound, and claim 21 need not read on the elected species of a1 or a2. Claims 1-4, 6-9, 11-18, and 22-32 are treated on the merits in this action.

***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-9, 11-17, 22-29 and 32 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 2001-181354 (hereafter "the JP reference", USPTO translation relied upon).

The JP reference discloses copolymers of N,N-dimethyldiallyl amine (corresponding to a1 in the instant claims) with the PEO ester of acrylic acid (corresponding to b in the instant claims), and cosmetic compositions containing the same which include the polymer in 10% aqueous solution, and small amounts of other ingredients such as surfactants (POE castor oil is exemplified in paragraph 0019). Ratios of these materials are given in table 1, and include a 5:95 ratio of N,N-dimethyldiallyl amine to PEO ester of acrylic acid. Methods of making are also disclosed commensurate with instant claims. The optional ingredients (c) and (d) are

never required to be present in the instant claims, and as such their absence in the art is irrelevant this rejection.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 6-9, 11-18, 22, 24-29, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,380,600 to Hosda.

Hosda teaches copolymers for cosmetic applications having a water soluble monomer (a) that may be a quaternized N,N dimethylacrylamide and a co-monomer (b) which is preferably polyethylene glycol (col. 3-5). The ratio of the two is from 1:5 to 5:1, encompassing the instant claimed ranges. The copolymers are used in cosmetic

compositions having, for example, 10 % copolymer, water, and surfactant in amounts commensurate with instant claims 28, 29, and 32. Example 4. In Examples 9-11, the gel former acrylamide is also used in amounts commensurate with instant claims. Methods of making commensurate with instant claims are also disclosed.

What is lacking is a teaching of monomers in the ranges of instant claims.

It would have been *prima facie* obvious to a person of ordinary skill in the art at the time of the invention to use monomers in the ranges of instant claims. Obviousness stems from the notion that when the general conditions of an invention are known in the prior art, finding the optimal or workable ranges is not a basis for patentability. Here, the prior art recognizes that broad ratios of (a) to (b) are appropriate, whereas the claims specify optimal or workable narrower ratios that are within the scope of those mentioned by the prior art. As such, the claims differ from the prior art only in that they show the narrow optimal or workable ratios of monomers, wherein the prior art had already disclosed a broad range of monomer ratios that encompasses the claimed ranges. It therefore follows that the claims constitute *prima facie* obvious subject matter.

Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hosda as applied to claims 1-4, 6-9, 11-18, 22, 24-29, 31 and 32 above in view of US 5,223,247 to Kopolow.

What is lacking from Hosda is a teaching of propellant.

Kopolow teaches that hair compositions may be formulated as hair sprays, and that when doing such, 20%-50% propellant may be used (overlapping with instant

claimed amount of propellant). It would have been prima facie obvious to a person of ordinary skill in the art at the time of the invention to use propellant in the claimed amounts, because Koplow teaches that this is a standard ingredient for hair compositions formulated as sprays.

### ***Conclusion***

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ERIC E. SILVERMAN whose telephone number is (571)272-5549. The examiner can normally be reached on Monday to Thursday 7:00 am to 5:00 pm and Friday 7:00 am to noon.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Hartley can be reached on 571 272 0616. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Eric E Silverman/  
Examiner, Art Unit 1618